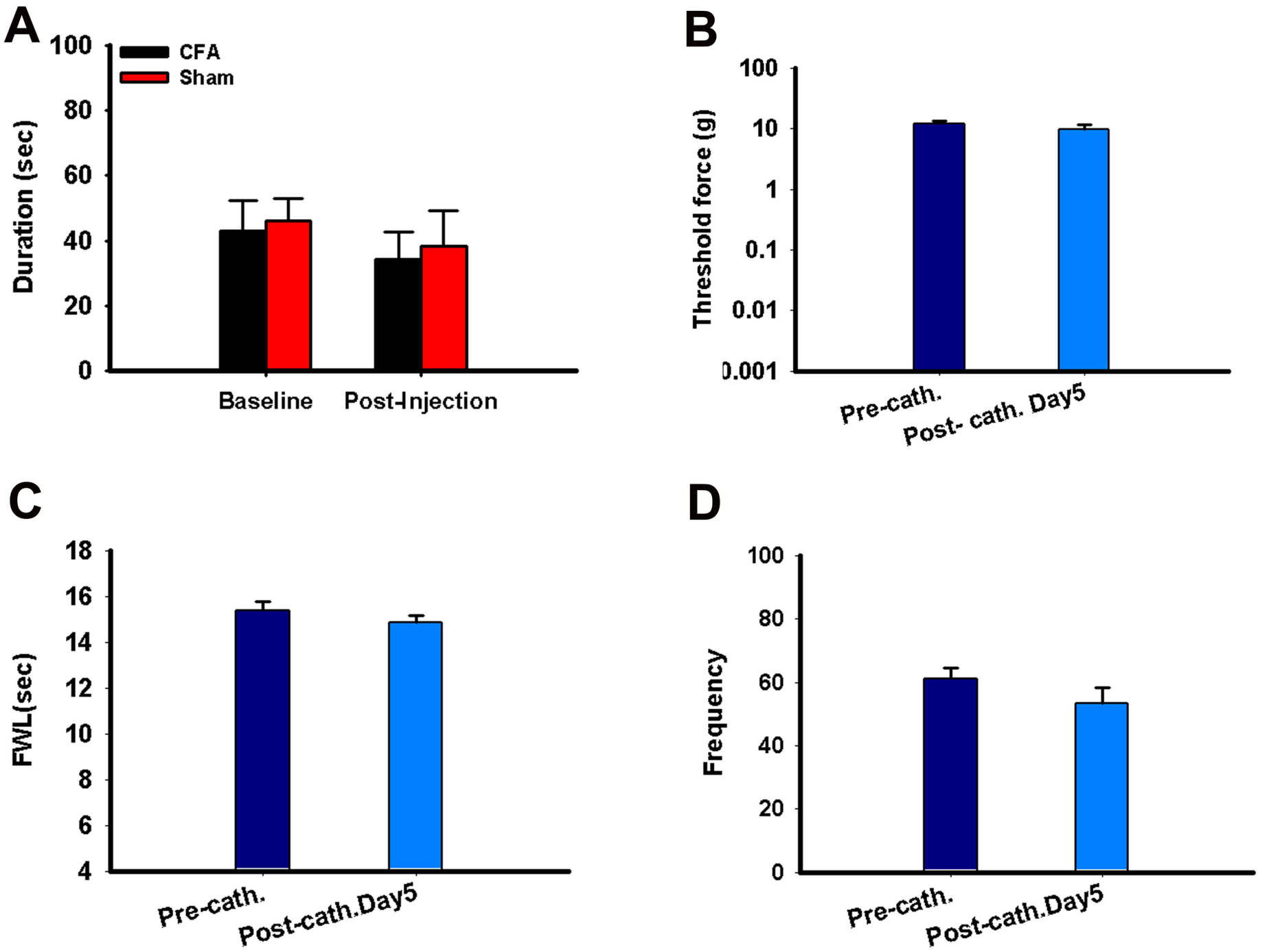


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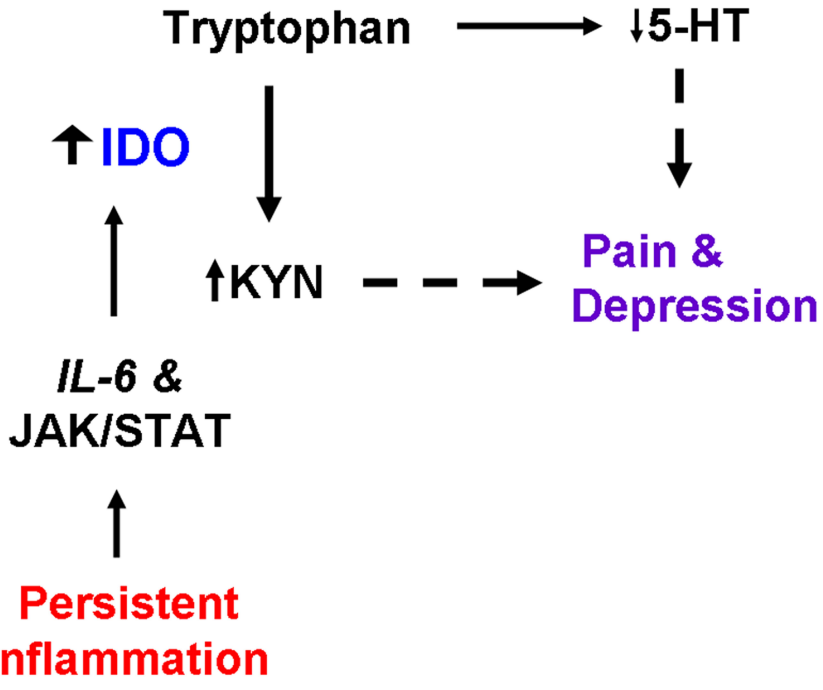
**Supple. Fig.1**

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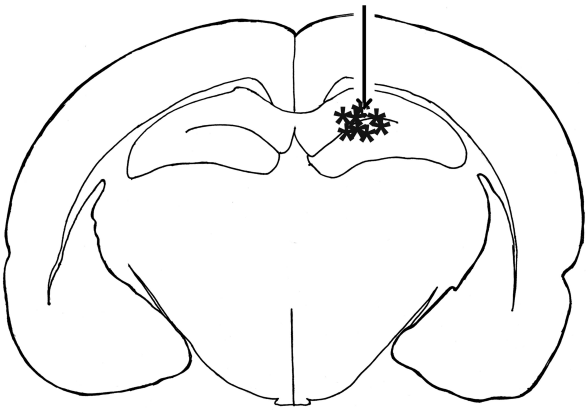
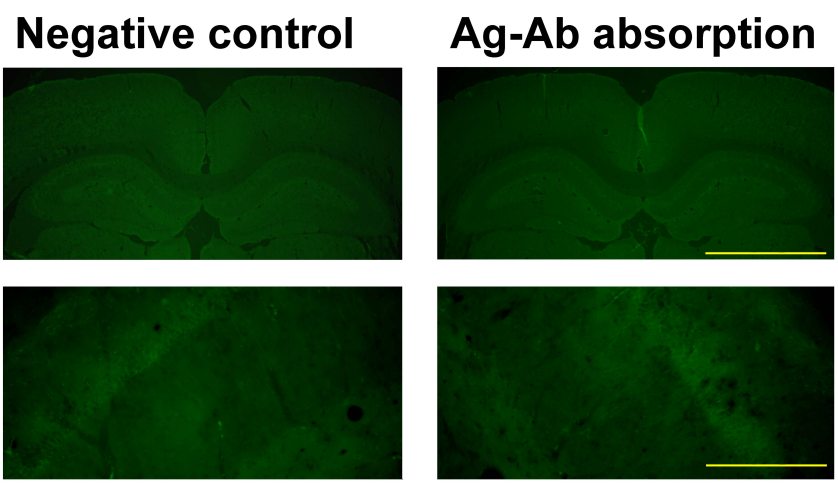
Supple. Fig.2

A



Bregma -3.60mm

B

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Supple. Fig 3

**Supplementary Figure 1:** (A) There were no differences in a Rotarod test (averaged from three 60-second sessions) on day 7 between arthritic and sham rats. n=6/group. P> 0.05. (B-D) Brain cannula implantation did not change baseline responses in nociceptive tests (B, C) and open field test (D) at 5 days after the implantation.

**Supplementary Figure 2**: A flowchart illustrating the role of IL-6-mediated brain IDO expression and enzyme activity in the cellular mechanism underlying the comorbidity between pain and depression.

**Supplementary Figure 3**: (A) Location of microinjections into the hippocampus (AP: -3.6 mm from Bregma; left: +2.0 mm; depth: –4.0 mm). (B) Photomicrographs showing a negative control (left panel: omitting primary antibody) and antigen absorption (right panel) of IDO1 expression. Within each panel, the upper and lower sub-panels represent a low and high magnification photomicrograph of the same brain region. Scale bar, 1.0 mm (upper panel) and 100 μm (lower panel). We also compared the sensitivity of IDO1 antibody from Santa Cruz (Biotechnology Inc. CA; rabbit polyclonal antibody against human, rat, and mouse) and Novus (Novus Biologicals. CO: rabbit polyclonal antibody against mouse and rat). The antibody from Santa Cruz was more sensitive (2-4 times) than the Novus antibody.